Infrastructure, Facilities & Transportation

Infrastructure, Facilities & Transportation

Infrastructure is comprised of the basic physical components and organizational structures of interrelated systems which provide commodities and services essential for a city to enable, sustain, and enhance commerce and its community's living conditions. In the City of St. Louis, these systems include roads and other transportation networks, water supply, storm and waste water management systems, solid waste management facilities, energy creation and distribution, and telecommunications.

A City's infrastructure is often tied closely to its natural resources and local environment, with impacts flowing both ways on the positive-negative spectrum. Holistically conceived and naturally integrated infrastructure can provide regenerative solutions to urban challenges and protection from natural and man-made hazards. Biomimetic solutions - those inspired by the functions of organisms which have evolved highly unique and optimized responses to need and context - are valuable models, as much of infrastructure is closely integrated with natural systems. A City's resilience to changing conditions is largely dependent on the capacity of its infrastructure to adapt, evolve, and improve along with, or even ahead, of its society's needs.

EXISTING ASSETS

As a City that is nearly 250 years old, St. Louis has a well-developed infrastructure. Its system of highways, streets, and alleys are in generally good repair and allow for efficient movement with minimal congestion, and the Metrolink corridors provide efficient access at reasonable cost. Cycling as both a recreational activity and commuting mode has grown strongly for more than a decade, and the WeCar program is supporting a greater range of basic and need-based transportation options. The City is also beginning to see evidence of a nascent electric vehicle infrastructure, as well as installed renewable energy technologies, such as photovoltaics, solar hot water, and wind turbines. The City's single stream residential recycling program has been both popular and financially sustainable. While storm and wastewater management present challenges, a long-term control plan is being guided by the Metropolitan Sewer District, and green infrastructure is becoming more prevalent, especially as a stormwater best management practice (BMP). The City and its partners are conducting pilot green alley, rain garden and tree trench projects. The City's potable water supply comes from two highly sustainable river sources and current treatment processes have yielded award-winning water taste and the highest levels of quality.

Transportation is a key aspect of any municipality's land use, economy, and quality of life. The City of St. Louis is well positioned to leverage its relatively diverse and compact size, along with central geographic location. Positioned at the confluence of the Missouri and Mississippi Rivers is the Port of St. Louis, the northernmost year-round ice-free port. The Municipal River Terminal is undergoing a $17 million modernization and expansion to handle container cargo shipped through the Port of New Orleans from points all over the world. The development of Lambert Airport as an international cargo hub brings significant economic potential to the region, as well as the six class 1 railroads that serve the City and its interstate highways, which are connected to the regional and national roadway systems. The Department of Streets maintains over 1,000 miles of City streets and 600 miles of City alleys. Passenger and local commuting is accommodated by automobile, bus, and light rail with the greatest percentage of vehicle miles traveled being one-person car trips. The City has an impressive 73 miles of on-street bike routes and was deemed a Bicycle Friendly Community by the League

of American Bicyclists. Through the efforts of both city government and nonprofit organizations, a number of initiatives now promote alternative transportation in the City including the Downtown Bicycle Station.

Exemplary access to and availability of fiber optics in the City, as well as a broad selection of robust concrete framed buildings, make the area highly suitable for data center and communications applications. St. Louis is home to one of the largest and most active chapters of the United States Green Building Council, and has a host of LEED certified green buildings, as well as the largest number of platinum-level LEED certified homes in the country, thanks to efforts by Habitat for Humanity. As the City continues to look ahead towards optimization and efficiencies, the development of its recent greenhouse gas emissions inventory and climate action plan will help to guide future critical infrastructure-based activities.

GOAL

The City of St. Louis aspires to integrate the basic systems, services, installations, and policies required for the functioning of its community by leveraging interrelationships and positioning the investment of capital spending to provide superior levels of service which anticipate and adapt to future needs, and add value to the economy, the community, and the environment.

OBJECTIVES

A Facilitate Affordable, Efficient, Convenient, Accessible, Safe, and Healthy Transport of People and Goods

B Promote Energy Efficiency and Utilize Cleaner Forms of Energy

C Reduce Greenhouse Gas Emissions City-wide

D Minimize Landfill-Bound Waste

E Manage Stormwater and Wastewater to Protect and Enhance Property and Natural Systems

F Provide the Best Quality Water from Sustainable Sources

G Advance Health and Resource Efficiency in Buildings

H Facilitate Access to Leading Edge Information Exchange Systems

Objective A: Facilitate Affordable, Efficient, Convenient, Accessible, Safe, and Healthy Transport of People and Goods

Continuing to develop access to multiple modes of transportation, along with the coordination of land use plans, economic development goals, environmental quality, and community aesthetics around transit-oriented-development and lower energy-using modes and practices, will facilitate the affordable, efficient, convenient, accessible, safe, and healthy transport of people and goods.

Measured in time of transport and communication,
the whole round globe is now smaller
than a small European country was a hundred years ago.
- John Boyd Orr

OBJECTIVE A

Facilitate Affordable, Efficient, Convenient, Accessible, Safe, and Healthy Transport of People and Goods

STRATEGY 1

Advance the City of St. Louis as a transportation hub

Leverage the City's central geographic location, its capacity at Lambert Airport, its position as the northernmost ice-free Mississippi River port, and its connection to all points north, east, south, and west through heavy rail and interstate truck to make it the location of choice for goods distribution, transfer, and logistics industries. Develop communications material including "time to destination" calculations and freight capacity to be leveraged in pursuit of potential businesses. Encourage development of high-speed rail.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Businesses, Business Organizations, Rail Freight and Passenger Companies, Barge Transport Companies, Teamsters Union, MoDOT, Public Transit*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 2

Encourage transit oriented development

Develop around Metro corridors, TOD nodes, and walkable mixed-use areas. Provide pedestrian conveniences at transit stops. Connect cycling infrastructure with transit station areas.

Cross-Benefits:

Timeframe: *Short/Long-Term*

Potential Partners: *Public Transit, Fitness Advocacy Groups, Developers, Planning Organizations*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

STRATEGY 3

Pilot transportation improvement districts

Identify one or more districts or corridors to introduce non-car transportation modes, such as bus service, highly developed cycling networks, and streetcars/ trolleys. Increase rates for car parking and encourage shared parking facilities for adjacent locations. Reduce parking requirements for zoning.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Public Transit, Fitness Advocacy Groups, Developers, Planning Organizations*

Strategy Type: *Legislative, Policy, Planning, Partnerships*

STRATEGY 4

Promote cycling amenities and infrastructure

Implement the Gateway Bike Plan in the City. Connect cycling facilities to transit and offer bicycle parking at train, bus, park-and-ride stations, and other appropriate locations. Locate cycling route maps and signage along bikeways. Establish bike stations and/ or share facilities in key business areas of the City. Require bike parking. Initiate a bicycle share program to increase access to bicycles. Create awareness around the City's velodrome bicycle race track. Conduct education, outreach, and advocacy events to promote cycling safety and interest.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Public Transit, Fitness and Bicycle Advocacy Groups, Developers, Planning Organizations, Bike Shops*

Strategy Type: *Legislative, Policy, Planning, Education, Partnerships*

STRATEGY 5

Develop funds for public transit based on revenues

Make bus and light rail fares affordable by supporting public transit through sales, gas, or parking taxes. Consider City-specific gas and parking taxes, or interstate tolls. Allocate portions of traffic fines to generate revenue. Provide transit passes to residents through an optional household or business tax add-on.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Public Transit, State of Missouri*

Strategy Type: *Legislative, Policy, Partnerships*

STRATEGY 6

Conduct outreach and advocacy programs which advance multi-modal commuting options

Conduct outreach and educational material that encourages walking, biking, and public transit use. Encourage businesses to offer employee cash-out parking programs and to offer public transit tickets in lieu of parking vouchers. Raise awareness through events and activities.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Public Transit, Fitness Advocacy Groups, Developers, Planning Organizations, Business Organizations*

Strategy Type: *Policy, Education, Partnerships*

STRATEGY 7

Offer balanced traffic flow

Balance infrastructure for pedestrians and cyclists with vehicular transport while optimizing the movement of vehicles to reduce idling and energy usage. Use signal interconnection for timed traffic management and install Intelligent Transportation Spines (ITS) for remote control of critical intersections and throughways. Use Complete Streets for planning and design and introduce traffic calming measures like rumble strips, roundabouts, narrower streets, and smaller radius street corners to slow cars down. Emphasize pedestrian rights of way with accentuated cross walks. Avoid creating induced traffic.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *MoDOT*

Strategy Type: *Legislative, Policy, Planning, Partnerships*

STRATEGY 8

Increase shared-vehicle programs and opportunities

Promote the use of commercial and neighborhood-based, shared-vehicle programs to allow people to rely primarily on non-car transportation for commuting and still have access to cars when necessary. Identify locational and subsidization opportunities for City employees (near City Hall /1520 Market), and identify suitable communities near TOD sites that could pilot neighborhood-based programs. Create an anonymous City employee address database that can be used to network interested carpoolers and rideshares. Promote monthly events designed to encourage carpooling.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Public Transit, Vehicle Sharing Advocacy Groups*

Strategy Type: *Legislative, Policy, Planning, Education, Partnerships*

STRATEGY 9

Use high efficient, low-emitting vehicles

Consolidate City vehicles into one fleet to facilitate flexibility in vehicle assignment, and offer economies of scale for future fleet purchases. Upgrade the City's vehicle fleet with high-efficiency, low-emitting, hybrid and electric vehicles. Continue the installation of telematics in City vehicles. Stay poised to take advantage of plant-based fuel technology as it becomes economically viable. Use projected fuel cost savings to cover the delta between typical vehicles and high-efficiency/hybrids. Require a percentage of all developed parking spaces be in preferred locations and reserved for low-emitting vehicles. Develop realistic options for swing lanes for High Occupancy Vehicles (HOV), hybrids, and non-gas vehicles that would be employed at peak congestion areas and times. Advance CNG mass transit vehicle retrofits through partnership with Metro and Lambert Airport which has a highly developed CNG program. Offer a small local tax credit to resident private parties to incentivize the purchase of fuel efficient (and GHG-reducing) vehicles.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Hotels, Academic Institutions, Business Organizations, Partnership for Downtown St. Louis, Telecommunications System Providers*

Strategy Type: *Planning, Operations, Education, Partnerships*

Objective B: Promote Energy Efficiency and Utilize Cleaner Forms of Energy

Energy for non-mobile, stationary sources (buildings, facilities, lighting, etc.) in the City of St. Louis is provided by three primary utilities; Ameren provides electricity and natural gas, Laclede Gas provides natural gas distribution, and Trigen/Veolia provides steam to downtown buildings. City-wide in 2010, 63,802,000 MMBTUs of energy were consumed, resulting in about 7,549,000 mtCO2e of greenhouse gases – a roughly 5.6% reduction from 2005. Electric (generation and delivery) and natural gas delivery operations are regulated by the Missouri Public Service Commission. Ameren and Laclede Gas both encourage energy efficiency. The City set up Energy Savings St. Louis in 2011, and AmeriCorps volunteers distributed more than 100,000 compact fluorescent light bulbs provided by Ameren to City residents. Additionally, both Ameren and Laclede Gas have energy assistance programs for those in need. Private renewable energy systems are incentivized by Ameren with net-metering options encouraged. Even with utility rates typically at the low end of those in the nation, energy generation and transmission costs are a large part of residential, commercial and governmental budgets. Energy emissions and practices resulting from energy generation impact our environment. By conserving the use of energy and using cleaner forms of energy, energy users in the City can help reduce greenhouse gas emissions and save on energy costs.

OBJECTIVE B

Promote Energy Efficiency and Utilize Cleaner Forms of Energy

STRATEGY 1

Encourage home and business energy efficiency through energy efficiency and conservation programs

Increase conservation-related demand-side initiatives for major sectors and market types. Offer energy efficiency programs for constituents of all income levels, businesses, and industry, and help to establish and align loan programs, grants, and cost savings opportunities. Provide low-no cost opportunities like CFL/LED distributions, energy audits, and weatherization activities to residents. Use tax holidays to permit purchase of new energy efficient appliances. Ensure that City constituents have access to current energy efficiency and clean energy programs, technical assistance, and advocacy. Provide property buyers with information about energy characteristics of facilities.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Electrical Utilities, Energy Advocacy Groups, Energy Efficiency Advocacy Groups, Home Builders, State Government*

Strategy Type: *Policy, Partnerships*

STRATEGY 2

Increase the installed base of renewable energy

Encourage the installation of cleaner and renewable energy resources. Establish a system of permitting requirements and incentives, such as providing information to every zoning or building permit applicant about renewable energy opportunities and the City's requirements and incentives. Offer building or zoning trade-offs for projects utilizing renewable energy. Offer reduced permitting fees for projects designed utilizing renewable energy. Offer expedited processing for projects utilizing renewable energy. Provide a tax incentive to businesses that utilize 50% of their energy need from clean energy sources.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Electrical Utilities, Energy Advocacy Groups, Renewable Energy System Suppliers*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 3

Conduct ongoing energy performance measurement and tracking

Monitor and publish energy performance. Challenge institutions and businesses to sign on to achieving greater energy efficiency, and publicly report their energy usage and performance improvements. Align efforts with the City's Climate Action Plan.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *RCGA, USGBC Missouri Gateway Chapter, Local Utilities*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

STRATEGY 4

Conduct investment-grade energy audits at large buildings and complexes

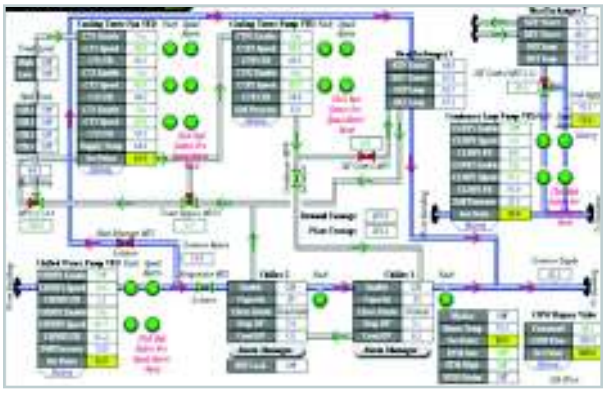
Starting with the anticipated largest energy-using sectors, audit and prioritize installation of recommended improvements by analyzing capital cost and payback to determine the most favorable projects. Phase in high performance equipment (such as lighting, electrical appliance, etc) during regular maintenance and upgrade schedules. Analyze benefits to cloud computing to reduce server electrical and maintenance costs. Ensure equipment optimization software is operating effectively on computers. Align analysis with rebate and finance opportunities.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Energy Auditing Firms, Business Organizations, Real Estate Organizations*

Strategy Type: *Legislative, Policy, Operations*



STRATEGY 5

Purchase Energy Star certified equipment

Currently, Energy Star equipment is "recommended" for use by City departments, but departments are allowed to choose what to purchase. For equipment with an Energy Star rating, encourage/ require that it be used in all appropriate circumstances. Equipment that has higher ratings should be given preference. Negotiate discounted prices by purchasing in bulk.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Office Equipment Supply Companies*

Strategy Type: *Legislative, Policy, Operations, Partnerships*

STRATEGY 6

Establish a renewable energy standard for City government operations

The City can show commitment and leadership in renewable energy development by establishing a Government Operations Renewable Energy Standard of 20% by 2021. Most of this would be met by the Missouri Renewable Energy Standard (MRES), but at least 5% would need to be met via new City-owned renewable energy installations.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Electrical Utilities, Energy Advocacy Groups, Renewable Energy System Suppliers, Electrical Unions*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

The State of Missouri has enacted the Missouri Renewable Energy Standard (MRES), which requires that by 2021, 15% of the electricity supplied by utilities be generated from renewable energy sources.

OBJECTIVE B

Promote Energy Efficiency and Utilize Cleaner Forms of Energy

STRATEGY 7

Upgrade streetlights with energy efficient bulbs

Replace streetlights with LED, or retrofit with induction bulbs. Pilot photovoltaic-powered lights. Consider a "streetlight curfew" in appropriate areas.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Electrical Utility*

Strategy Type: *Legislative, Policy, Operations, Partnerships*

STRATEGY 8

Make water pumps and related infrastructure more energy efficient

Evaluate the energy efficiency of the pumps and the engineering of the supply systems through which water (both potable and in fountains) is delivered, and when appropriate, upgrade to more efficient and next-generation solutions. Evaluate fountain and pump operating schedules, identify opportunities for efficiencies, and modify the operating cycle.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Energy Efficiency Advocacy Groups*

Strategy Type: *Policy, Operations, Partnerships*

STRATEGY 9

Study the potential for development of hydroelectric resources

Research development of the Missouri and/or Mississippi Rivers as hydroelectric resources, especially building energy-generating capacity from existing dams in the region.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Army Corps of Engineers, Electrical Utilities, Energy Advocacy Groups*

Strategy Type: *Legislative, Policy, Planning, Partnerships*

STRATEGY 10

Utilize utility scale options to reduce overall community energy consumption

Utilize, as appropriate, small scaled, localized, and/or decentralized energy provision systems, such as district heating and cooling, cogeneration, and geo-exchange systems that provide resiliency through diversifying energy supply. Ensure consumer return on net metering. Identify appropriate applications of tiered rates for electricity consumption and time-of-use or peak demand energy pricing. Pilot smart grid technology.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Energy Utilities, Energy Advocacy Groups, Engineering Firms*

Strategy Type: *Legislative, Policy, Planning, Partnerships*

STRATEGY 11

Advance developing and innovative energy solutions and infrastructure

Utilize leading edge energy solutions, such as waste to energy methane capture and incineration, bio-digesters, electric vehicle infrastructure, CNG for public transportation, hydrogen energy dispensing, fuel cells, biodiesel, appropriately located wind turbines, photovoltaics on buildings and parking lots.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Energy Utilities, Business Organizations, Public Transit, Energy Advocacy Groups, Technology Innovators and Providers*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

STRATEGY 12

Offer innovative financing for energy efficiency and clean energy improvements

Ensure access to information regarding EECE financing opportunities, and specifically advance locally operated energy financing districts like the City's Property Assessed Clean Energy program, "Set the PACE St. Louis". Ensure that fair lending practices are engaged.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Energy Utilities, Energy Advocacy Groups, Lending Institutions*

Strategy Type: *Legislative, Policy, Planning, Partnerships*

Objective C: Reduce Greenhouse Gas Emissions

Climate is always changing due to natural causes; however, a great deal of evidence says that human activity can and does affect the Earth's climate. Overall, we are seeing an increase in average global temperature plus a cascading series of changes in climate patterns attributable to that warming. We refer to the aggregate of these human-caused phenomena as climate change. Greenhouse gas (GHG) emissions, and the release of carbon dioxide (CO2) from burning fossil fuel to create energy, are the principal causes of climate change. Left unchecked, climate change is predicted to have a number of serious impacts on the City of St. Louis, including gradually increasing temperatures, increased storm severity, and exaggeration of drought and flood conditions due to storm cycles.

Mitigating GHG emissions involves social and economic costs which must be balanced against the costs of potential damage caused by climate change. The City has conducted a Greenhouse Gas Emissions Inventory, and will be establishing a reduction target as part of a climate action plan (CAP). The City is already addressing many climate action objectives.

"Every time we design a building, we set up its energy consumption pattern and its greenhouse gas emissions pattern for the next 50 to 100 years." - Ed Mazria

STRATEGY 1

Measure and report greenhouse gas emissions

Collect and synthesize data relevant to greenhouse gas emissions for all sectors including municipal, corporate, organizational, and individual. Provide transparent and regular reporting of this information.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Higher Education, Community and Organizational GHG Data Providers*

Strategy Type: *Policy, Operations, Partnerships*

STRATEGY 2

Engage in climate action planning

Build on the foundational data of greenhouse gas inventories and create strategic action plans which address emissions reduction targets with strategies to meet them. Collaborate with higher education institutions and advocacy groups to advance learning and capabilities around management of these issues.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Higher Education, Community and Organizational GHG Data Providers, Climate Advocacy Groups*

Strategy Type: *Policy, Planning, Operations, Partnerships*

STRATEGY 3

Support regional cooperation on abating climate change

Work to ensure that the Regional Plan for Sustainable Development (RPSD) contains a viable strategy to carbon footprint the entire metro area; ensure that the RPSD contains a GHG emissions reduction goal and a viable set of strategies to achieve the regional reduction goal, as well as a mechanism for determining progress, and maintaining accountability.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *RPSD Partners, Higher Education*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

STRATEGY 4

Reduce greenhouse gas emissions

Work at all levels and all sectors to reduce GHG emissions through the reduction of fossil fuel energy consumption, landfill emissions, and refrigerant emissions. Offset emissions by increasing the urban tree canopy. Research and develop opportunities for naturally compatible sequestration technologies. Position strategies to promote economic development, and build knowledge and capacity around GHG management.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Higher Education, Community GHG Data Providers*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

STRATEGY 5

Develop resiliency and adaptation capacity in response to climate change

Monitor climate-specific trends and impacts to prepare appropriate responses. Consider specifically rising average temperatures, more frequent and more severe storms, potential increase in drought cycles, and response to long-term and flash flood events.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Higher Education, Community GHG Data Providers, Climate Action Advocacy Groups*

Strategy Type: *Legislative, Policy, Planning, Operations, Partnerships*

"I have not made any suggestions about climate change. This is more about blending or shifting the conversation about the environment versus the economy."
- Jennifer Granholm

Objective D: Minimize Landfill-Bound Waste

The City of St. Louis Refuse Division is responsible for the collection and disposal of residential waste for citizens of the City, and coordinates efforts to reduce the amount of waste going to landfills by promoting recycling, reuse, and waste reduction. The City collects approximately 200,000 tons of waste each year from City residents, City government facilities, public spaces and special events. To dispose of this waste at a landfill, the City pays almost $7 million in landfill tipping fees each year. Collected waste is delivered to one of two transfer stations – there are no active landfills within the City limits. Commercial and industrial waste removal, recycling and composting is contracted through private vendors. Composting is managed by a private contractor in partnership with the City. By reducing the amount of waste that is generated, reusing materials as many times as possible, and recycling those resources that are used, landfill tipping fees, area of land used for landfills, and the emissions resulting from landfilled waste can be reduced.

In the City of St. Louis, a fee of $11.00 per household/unit per month is charged to those using Refuse Division services. These services include collection of solid waste, monthly pickup of bulky items, collection of yard waste, and single stream recyclable solid waste.

STRATEGY 1

Offer recycling in public spaces

Bring the City's commitment to landfill diversion front and center so that natives and visitors alike understand and take pride in the culture of recycling. Provide single stream recycling in places such as Forest Park, tourist areas, the CBD, Lambert Airport, and the Convention Center. Ensure public events recycle waste. Track specific local waste stream flow rates as opposed to using statewide estimates to determine where to focus future efforts.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Convention Center and Visitors Bureau, Partnership for Downtown St. Louis, Solid Waste Management District (SWMD)*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 2

Support materials and equipment repurposing programs

One person's trash is another one's treasure. Facilitate the development of a broader material and equipment repurposing infrastructure to keep unwanted material from landfills. Work internally through the City's Supply Division and externally through the Refuse Division, along with partners, to engage the community in the repurposing of still usable goods. Share information through a website. Use collected car oil, scrap metal, used appliances, and used electronics as sources of revenue for small business start-ups. Offer an appliance exchange program/incentive to help residents replace inefficient equipment.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Special Events Planners, Recycling and Repurposing Advocacy Organizations and Businesses, Waste Collection Vendors, Solid Waste Management District (SWMD), City Museum*

Strategy Type: *Policy, Operations, Education, Partnerships*

STRATEGY 3

Provide residential and business hazardous waste collection opportunities

Sponsor electronics and hazardous waste collection events. Recover CFCs from discarded air conditioners, freezers and refrigerators in municipal properties and public housing. Verify that collected materials are recycled or disposed of properly. Enforce existing, illegal dumping ordinances by accessing fines.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Hazardous Waste Haulers and Recyclers*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 4

Collect and compost organics and yard debris

Yard and food waste make up 30% of the waste stream. Collect organics/compost in residential areas. Pilot composting initiatives in homes and businesses. Facilitate yard debris collection as well as holiday tree recycling. Make leaf mulch & screened compost available to parks, community gardens, and residents.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Composting Businesses and Advocacy Groups, Waste Collection Vendors, MO-DNR, Solid Waste Management District (SWMD)*

Strategy Type: *Legislative, Policy, Operations, Education, Partnerships*

STRATEGY 5

Use waste diversion as a source of revenue

Employ a "pay as you throw" program to incentivize recycling over landfilling so the City can save on tipping fees. Implement penalties for non-compliance with recycling programs. Offer a deposit/buy-back program for bottles and cans. Tax product manufacturers for the amount of waste packaging their products generate.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Solid Waste Management District (SWMD), Waste Collection Vendors, Business Organizations*

Strategy Type: *Legislative, Policy, Operations, Education, Partnerships*

STRATEGY 6

Advance waste diversion education and outreach programs

Provide education and outreach programs in City schools. Organize community clean sweep sessions of illegal dumping sites and street litter. Create a locally-focused video on waste diversion and recycled content opportunities that can be used with multiple audiences. Perform waste audits of every City government facility and publish results. Discourage cross-contamination of alley dumpsters.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Solid Waste Management District (SWMD), Community Service Organizations*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 7

Reduce the manufacture and waste of retail packaging and plastics

Remove bottled water from vending machines in all City properties. Add a local tax to plastic water bottles and make more public hydration (fountain and bottle fill) systems available. Tax product manufacturers for the amount of waste packaging their products generate. Ban plastic bags in the City. Encourage reusable bags at stores by charging for plastic or paper bags.

Cross-Benefits:

Timeframe: *Long-term*

Potential Partners: *Recycling Advocacy Organizations*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 8

Reduce virgin paper use and increase use of paper with recycled content

Evaluate paper trails and digital pathways of both required and less necessary documents. Propose digital evolutions to systems and processes that require printed paper. Track printing usages and publish results. Create competition amongst departments on who can print the least. Set all printers to default double-sided. Promote use of materials and supplies with recycled content.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Office Supply Companies*

Strategy Type: *Legislative, Policy, Operations, Education*

In nature, waste equals food...
- William McDonough and Michael Braungart

Objective E: Manage Stormwater and Wastewater to Protect and Enhance Property and Natural Systems

The City of St. Louis averages about 41 inches of rainfall per year, with long range climate change forecasts indicating upward trends in rainfall amounts, as well as increased frequency of severe weather. Development of the City has created a significant percentage of impervious area, which typically creates conditions for stormwater runoff that must be channelled to area waterways by the storm sewer system, most of which is combined with the sanitary sewer. Storms which produce a lot of rain in short periods of time can cause flash flooding and overcharging of the sewer system. This can cause property damage and contamination of waterways. The Metropolitan Sewer District (MSD) is the agency that manages the 9,600 miles of pipe in the St. Louis region, much of which is outdated and in need of upgrade. While MSD is currently implementing a significant regional sewer system upgrade through its Strategic Business and Operating Plan, there are many opportunities for property owners and developers to implement localized strategies that would relieve pressure on the existing sewer system.

Nearly the entirety of the City's sanitary sewer system is combined with its storm sewer system, and is designed to remove waterborne waste from the City's residential, commercial and industrial properties. City wastewater is treated by the MSD at Bissell Point and Lemay, two of MSD's five regional treatment plants. While overcharging of the combined sewer system during storm events can cause contamination of area waterways, the reduction or diversion of waterborne waste has the potential to relieve stress on the City's sewer conduit and treatment systems. Additionally, alternative options for the management or reuse of the "sludge" treatment by-product and the gases generated in the treatment process would reduce the amount of this landfill-bound material.

OBJECTIVE E

Manage Stormwater and Wastewater to Protect and Enhance Property and Natural Systems

STRATEGY 1

Develop a natural stormwater management masterplan

Define both crisis and opportunity areas that could be leveraged to develop green infrastructure solutions, integrating open spaces as part of the City stormwater infrastructure. Advance development of smaller scale watershed districts to manage localized costs, benefits, and strategies (like the Deer Creek Watershed Alliance). Identify tracts of land appropriate for stormwater detention/retention and regional detention structures. Recognize large-scale flood management systems to protect local communities. Communicate the strategic plan for evolution of the stormwater and sanitary sewer systems intended to resolve EPA mandates and continue the development of a regionally-specific design manual.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *St. Louis District of the Army Corps of Engineers, Watershed Alliances, Neighborhood Associations, MSD*

Strategy Type: *Legislative, Policy, Planning, Education, Partnerships*

STRATEGY 2

Incorporate green infrastructure practices

Encourage the installation of green infrastructure to intercept stormwater and manage its quantity and quality without sending it to the piped storm/wastewater system. Best management strategies include rain barrels, planters, tree wells, rain gardens, bioswales, green roofs, green alleys, permeable pavement, developed wetlands, and natural ecosystem controls. Leverage tree planting to intercept rainfall, increase infiltration, and soil's ability to hold water. Encourage the use of native planting and xeriscaping.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Watershed Alliances, Neighborhood Associations, Green Building Advocacy Groups, MSD*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 3

Use pilot projects to explore ways to achieve net zero stormwater discharge

Encourage stormwater management installations at new and existing properties. Provide rewards, efficiencies, or credits to encourage property owners to install natural stormwater management systems. Incorporate green infrastructure and greywater systems in municipal buildings and public housing for toilet flushing and irrigation.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Plumbers Unions, Plumbing and Civil Engineering Organizations, MSD*

Strategy Type: *Policy, Planning, Education, Partnerships*

STRATEGY 4

Reduce wastewater treatment loads and divert wastewater treatment sludge from landfills

In nature, waste = food. Currently, wastewater treatment sludge goes to a landfill or is incinerated. Sludge could be dehydrated and burned to produce energy or potentially processed in bio-digesters where the gas could be captured and burned for energy. Sludge can also be dehydrated and turned into fertilizer. The type of waste must be monitored (the Bissel plant processes some industrial waste from downtown while the Lemay plant is more residential) as certain contaminants may prevent its re-use. Small scale strategies, such as composting toilets and piloting on-site bio-digesters and living machines, could be appropriate in certain applications.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Electrical Utilities, Plumbers Unions, Plumbing and Civil Engineering Organizations, MSD*

Strategy Type: *Policy, Operations, Partnerships*

STRATEGY 5

Evaluate innovations in water treatment

Access new practices in system design, operations, and technologies that preserve clean water and resources. Explore leading edge clean water technologies, such as limiting the use of road salt on streets by using sugar beet juice to reduce contamination of roadside plant material and soil.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Plumbers Unions, Plumbing and Civil Engineering Organizations, MSD*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 6

Raise awareness of storm/wastewater impacts through education and outreach programs

Stormwater and wastewater management are challenges that can be individually impacted in positive ways. Make easily available information that explains the "whole value" of water issues from the water cycle to pervious/impervious development, to impacts from fertilizers and toxic runoff, to private lateral line insurance and flood management systems. Include education on low-cost residential stormwater strategies and opportunities for residents to disconnect their downspouts and manage stormwater on-site. Develop pilot strategy installations in high-traffic areas to inspire interest.

Cross-Benefits:

Timeframe: *Short/Long-Term*

Potential Partners: *Plumbers Unions, Plumbing and Civil Engineering Organizations, Green Building Advocacy Organizations, MSD*

Strategy Type: *Policy, Planning, Education, Partnerships*

Objective F: Provide the Best Quality Water from Sustainable Sources

Water is a resource and commodity, and though the City is fortunate to have an abundance, it would be imprudent to contaminate what we have or to be wasteful with treated water. The City of St. Louis lies just downstream of the confluence of the Missouri and the Mississippi Rivers, two of the largest rivers in North America, an advantageous location considering water challenges that exist in other parts of the country. These waterways provide a consistent high-volume source of freshwater to the City's two water treatment plants, one on each river. Combined, these plants have the capacity to serve 900,000 residential constituents. In 2007, the City of St. Louis won the "Best Tasting City Water in America" from a blind taste test at the U.S. Conference of Mayors. Because the City is currently producing water at just over 1/3 of its capacity (using the 2010 census population count of 319,294), potential exists for providing water to other municipalities or commercial interests above and beyond that in which the City is currently engaged. Water production and sale may have additional revenue producing potential for the City.

STRATEGY 1

Ensure clean water is available for City use

Ensure local watersheds and agriculture entities release the cleanest possible water into our river sources and aquifers. Integrate with regional flood plain management activities and stormwater BMP's. Continue to manage river waters so their flow volumes and quality are maintained.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *MO-DNR, Army Corps of Engineers, EPA, Water Advocacy Organizations, Water Utilities*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 2

Advance responsible water use

Increase awareness of and access to information on responsible water use including the development of educational materials on water source and water cycle awareness, the global value of water, responsible use best practices, the "full price" of bottled water, and disposal of toxins into the water stream. Develop outreach programs and campaigns around responsible water use.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *MO-DNR, EPA, Water Advocacy Organizations, Water Utilities*

Strategy Type: *Policy, Operations, Education, Partnerships*

STRATEGY 3

Make data on water usage available by property

Water meters currently exist in most commercial properties in the City but not at City residences. Install City water meters to more directly monitor usage and provide incentives for constituents to save money through water conservation. Verify all commercial properties are metered. Make water meters mandatory for all new construction. Pilot a meter program at City Hall and track usage. Provide water audits for interested residents and businesses. Require water usage data be incorporated into MLS real estate listings.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Water Advocacy Organizations, Water Utilities, Plumbing Infrastructure Contractors, Plumbing Unions, Real Estate Agencies and Advocacy Groups*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 4

Encourage limits on outdoor potable water consumption

Encourage the use of low-maintenance and native landscaping that is acclimated to the local climate, requiring less irrigation. Promote weather-controlled irrigation systems to reduce redundant water use.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Landscape and Gardening Advocacy Organizations, Landscape Contractors*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 5

Develop a water delivery and treatment system which accommodates multiple levels of water quality

The tasks for which we use water do not all require the highest level of treatment and requisite costs. The City's current system is designed to deliver one level of water quality to its constituents, but offering access to greywater systems would reduce the need for higher levels of treatment. Uses that might be appropriate for greywater include toilet flushing, irrigation and fire fighting as well as reducing potable water use at fountains and City parks. Where possible, take advantage of multiple uses of the same water as it moves from highly-treated use requirements to lower treatment requirements.

Cross-Benefits:

Timeframe: *Short/Long-Term*

Potential Partners: *Local Plumbing Infrastructure Contractors, Plumbing Unions, Green Building Advocacy Organizations, MSD*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 6

Reduce consumption of bottled water

Build public confidence in the high quality of City tap water. Create a campaign in schools to increase the consumption of tap water and reduce the plastic waste bottled water generates. Make public hydration (drinking and pet fountain) systems available. Install efficient drinking fountains in schools with bottle-filling units.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *K-12 Schools*

Strategy Type: *Legislative, Policy, Operations, Education*

OBJECTIVE F

Provide the Best Quality Water from Sustainable Sources

STRATEGY 7

Continue to supply potable water that exceeds drinking water standards

Maintain internal processes which periodically evaluate the chemicals, filters, treatment agents, and treatment processes to ensure the highest quality water is being delivered to City Water Division customers in a cost-effective and responsible manner.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *MO-DNR, EPA, Water Advocacy Organizations, Water Utilities*

Strategy Type: *Legislative, Policy, Operations, Partnerships*

STRATEGY 8

Attract water-driven businesses to St. Louis

Market water resource opportunities to manufacturing concerns, such as pharmaceutical companies, that require abundant quality water resources.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Business Organizations*

Strategy Type: *Policy, Planning, Partnerships*

Objective G: Advance Health and Resource Efficiency in Buildings

According to the United States Green Building Council website, buildings are currently responsible for:

- 48% of total energy use (and 76% of electricity use)
- 39% of total CO2 emissions
- 50% of CFC production
- 14% of potable water consumption
- 25% of wood harvested
- 40% of landfill material

Additionally, as many as 30% of buildings suffer from "Sick Building Syndrome". The EPA indicates that, on average, people spend over 90% of their time inside buildings. Moreover, nearly 80% of the greenhouse gas emissions in the City come from its buildings. Percentages like these indicate a significant opportunity for the City to advance the efficient use of resources and increase constituents' health, productivity, and quality of life through sustainable building practices. St. Louis City Ordinance 67414 dictates that all newly constructed municipal facilities greater than 5,000 square feet in size must achieve the LEED (Leadership in Energy & Environmental Design) Silver level of certification. To date, there are 30 commercial LEED certified projects in the City limits and nearly 60 LEED certified homes as well – most of which have been constructed by Habitat for Humanity. St. Louis City Ordinance 67803 constitutes and directs the implementation of energy efficiency and greenhouse gas reduction measures for new municipal buildings and major remodels of municipal buildings. Resource efficient buildings cost less to operate, have smaller impacts on their natural environments and are healthier to occupy. The City and its constituents could reap significant benefits by advancing the planning, design, construction, and operation of resource-efficient buildings.

STRATEGY 1

Collect and share data on local climate conditions and place drivers

Analyze St. Louis environmental conditions, such as rainfall, temperature and humidity, to ensure that buildings respond appropriately to and take advantage of passive building solutions. Share resources and guidelines that enable designers and builders to integrate low energy and low resource usage solutions into building projects.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors*

Strategy Type: *Planning, Education, Partnerships*

STRATEGY 2

Strive for the highest levels of energy efficiency and maximize the deployment of clean energy solutions in buildings

Establish higher required thresholds of energy performance than national norms and standards. Set bold targets and timelines (like the AIA 2030 challenge) for governmental facilities. Encourage the integration of site-specific clean/renewable energy sources and leverage the Set the PACE St. Louis program.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 3

Ensure building and site development integrates with natural site ecology

Encourage and/or require new building and substantial retrofit projects to incorporate stormwater management plans that result in a net zero increase in the pre-to-post development discharge rate and quantity for properties with less than 50% total impervious area and a 25% decrease in the rate and quantity for properties with a pre-to-post development impervious area greater than 50%. Encourage the use of vegetated roofs and white/cool roofs. Facilitate access to resources on no-irrigation landscapes and the development of robustly diverse and locally specific bio-habitats.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors, MSD*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 4

Advance the use of high-efficiency building related water systems and technologies

Use high-efficiency water fixtures and building water systems. Require projects installing new fixtures to exceed current plumbing code performance requirements by 30%, and set longer term performance thresholds that show leadership in this area. Require the installation of water meters on all new or major renovation industrial, commercial, and residential projects. Encourage the integration of greywater systems for appropriate uses.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors, MSD, Plumbing Unions, MSD*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 5

Encourage reuse of materials and divert from landfills

Require a minimum 50% construction waste recycling for new projects, major renovations and demolition (include streets projects), and increase diversion levels over time as local infrastructure and experience develops. Use building materials with low-toxicity, high recycled content and which are locally manufactured.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors, Local Material Vendors*

Strategy Type: *Legislative, Policy, Operations, Education, Partnerships*

STRATEGY 6

Provide healthy interior environments in commercial and public buildings

Use natural light for visual acuity and energy reduction, passive temperature and ventilation control, and low-emitting materials and equipment. Use workplace optimization studies to identify major opportunities for improvement in indoor work areas. Encourage awareness in the use of green cleaning products.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors, Local Material Vendors*

Strategy Type: *Legislative, Policy, Education, Partnerships*

Bricks salvaged from buildings demolished in the St. Louis area are highly sought after and sent to other parts of the country for use in building projects.
- Preservation Research Office

STRATEGY 7

Evolve local codes and ordinances to meet or exceed national and international standards

While updating and adopting local building codes and standards, strive to place the City in a leadership position by setting local performance thresholds even slightly higher than basic code mandates. Revise permit fee schedules so that building projects which employ low-energy and low-water strategies pay lower fees while those that do not must pay at the maximum rates. Build on the City's LEED-Silver and energy efficiency requirement for its own buildings for the private sector.

Cross-Benefits:

Timeframe: *Long-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 8

Compile data on high efficiency building performance

Use a publicly accessible and interactive building performance tracking tool which leverages GIS to reveal where and how energy is being used. Celebrate high-performance projects based on design model/intent and actual performance in categories such as energy, site optimization, water, materials/waste reduction, and certification programs like LEED, Energy Star Portfolio Manager, and the St. Louis High Performance Building Initiative.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors, MSD, Business Organizations, Utilities*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 9

Offer integrated green building education

Conduct education and outreach on integrated green building strategies, procedures, programs, and financing. Publish case studies of the City's highest performing buildings.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Green Building Advocacy Groups, Local Planners, Developers, Architects, Engineers and Contractors*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

Objective H: Facilitate Access to Leading Edge Information Exchange Systems

Communications and information technologies are evolving at the greatest rates of all time, as well as our capacity to share, partner, archive and retrieve information, and generally increase our intelligence and knowledge base. The use of virtual communications and information technology (IT) systems also reduces the need for and the resulting cost, time, energy, and emissions of physical travel, and the shipment of physical objects like mail and books, while communicating information at the same or higher levels. The City of St. Louis has robust IT infrastructure capacity with typically easy commercial access to high-speed fiber, cable and concrete framed building structures, which are well suited for data center development. The City government has migrated to cloud-based computing systems which will reduce energy usage and resulted emissions, cooling loads, and the required area for computer servers. Additionally, the City is home to commercial and academic institutions which are creating innovative systems and applications along with leading edge research endeavors. Continuing to encourage the development and leveraging of communications and IT infrastructure will allow the City to fully engage its constituents, create economic opportunities for innovative partnerships, and ensure fertile ground for residents and businesses with a wide range of aspirations.

STRATEGY 1

Develop a virtual meeting network

Develop telepresence hubs in airports and hotels, possibly in government buildings and/or libraries in partnership with hardware/software vendors. Consider a national challenge through the United Conference of Mayors to connect ALL cities. Telepresence rooms could be part of business/research incubators to advance the missions of the tenants with a reduced /shared cost.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Hotels, Academic Institutions, Business Organizations, Partnership for Downtown St. Louis, Telecommunications System Providers*

Strategy Type: *Planning, Operations, Education, Partnerships*

STRATEGY 2

Provide Wi-Fi and high speed internet access across the entire City

The City's density can be leveraged to increase the speed of business and information exchange, and for attracting businesses and residents. Develop City-wide hotspots with high speed internet access. Make Wi-Fi available on all public transportation. Facilitate low cost Wi-Fi options to residents who have limited or fixed incomes. Build on the development of ultra-high-speed internet access in Kansas City and position the City to be next in line.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Hotels, Academic Institutions, Local Businesses, Business Organizations, Public Transit, Partnership for Downtown St. Louis, Telecommunications System Providers*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 3

Encourage innovative and useful app and website development

Application software for mobile devices is being created at an incredible pace. The more apps made available for specific use in the City by its constituents and visitors, the more accessible all of the City's dimensions and attributes will be. Host sustainability app development competitions to encourage innovation and optimization of City resources, institutions and infrastructure. Create an open environment for the development of applications based on City GIS information, mobility and transportation, events and amenities, local neighborhood and social networks, demographic data, services, orientation, and data sharing.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Academic Institutions, Local Businesses, Business Organizations, Public Transit, Partnership for Downtown St. Louis, Telecommunications System Providers*

Strategy Type: *Policy, Planning, Operations, Education, Partnerships Education, Partnerships*

STRATEGY 4

Brand the City as a communications hub

The City has a high amount of telecommunications fiber per capita/area. Leverage the City's good internet structure, capacity for data centers, and private sector expertise.

Cross-Benefits:

Timeframe: *Short-Term*

Potential Partners: *Business Organizations, Partnership for Downtown St. Louis,*

Strategy Type: *Legislative, Policy, Planning, Operations, Education, Partnerships*

STRATEGY 5

Make computers and internet access broadly available

Use libraries, recreation centers, community centers, and schools to provide access to information technology devices within the facilities. Acquire new, repurposed, or lightly used equipment. Distribute used but still-useful devices when facility capacity or device near-obsolescence is reached.

Cross-Benefits:

Timeframe: *Short-term*

Potential Partners: *Computer Equipment Vendors and Servicers, Local Businesses and Residents*

Strategy Type: *Policy, Operations, Education, Partnerships*

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